

California Bay-Delta Program

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Conveyance Program Multi-Year Program Plan Years 5 – 8

Implementing Agencies:

Department of Water Resources
United States Bureau of Reclamation

April 2004



Goals, Objectives and Targets

Goals and Objectives:

The goal of the Conveyance Program is to identify and implement water conveyance modifications in the Delta that will:

- Improve water supply reliability for in-Delta and export users
- Support continuous improvement in drinking water quality
- Complement Delta ecosystem

CALFED's basic strategy for the Conveyance Program is to develop a through-Delta conveyance alternative based on the existing configuration of the Delta with some modifications. Some construction of improvements in the south and north would occur within the first stage to improve conditions for ecosystem and water management reliability. Other parts of the first stage consists of studies and evaluations of major conveyance features to allow for these conveyance projects to be ready for permitting and construction in later stages should the projects be necessary to meet Program objectives.

The Conveyance Program describes the changes to Delta channels and project operations which are intended to improve movement of water through the Delta and to the Central Valley Project and State Water Project export facilities. A through-Delta conveyance alternative based on existing Delta configuration with some modifications would be developed and its effectiveness evaluated. Then additional conveyance improvements or other water management actions would be implemented, as necessary to meet CALFED goals and objectives. The Program also proposes changes involving the intertie of SWP/CVP facilities, water quality improvements to local water facilities, flood control and ecosystem improvements, continuing the temporary barriers project, and resolving water quality concerns at San Luis Reservoir low water conditions.

The CALFED Record of Decision (ROD) identified three commitments to be met. For each ROD commitment, key objectives have been identified for the Conveyance Program:

- **South Delta Actions** – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish protective measures, and ensure that local in-Delta agricultural water needs are met.
 - Increase SWP pumping from 6680 cubic feet per second (cfs) from March 15 to December 15 to 8,500 cubic feet per second (cfs), and modify existing pumping criteria from December 15 to March 15, to allow greater use of SWP export capacity and the installation of permanent operable barriers in the south Delta.
 - Increase SWP pumping to the maximum capability of 10,300 cfs.
 - Increase fish protection by improving fish screening at CVP and SWP export facilities.
 - Design and construct floodway improvements on the lower San Joaquin River to provide conveyance, flood control and ecosystem benefits.
 - Reduce agricultural drainage from Veale and Byron Tracts in the Delta.

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- **North Delta Actions** – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.
 - Evaluate and implement improved operational procedures for the Delta Cross Channel (DCC) to address fishery and water quality concerns.
 - Simultaneously evaluate a screened through-Delta facility on the Sacramento River of up to 4000 cfs.
 - Design and construct floodway improvements in the North Delta to provide well-integrated flood control and ecosystem improvements, and improve water supply reliability, water quality, levee stability and recreation opportunities to the extent possible.
- **Delta Mendota Canal/California Aqueduct (DMC/CA) Intertie Actions** – to consider the need for two specific DMC/CA intertie projects which physically connect the SWP and CVP facilities.
 - One connection would occur between the Delta Mendota Canal and California Aqueduct west of the City of Tracy.
 - One connection would be an intertie between the CVP intake facility and the SWP's Clifton Court Forebay with a corresponding increase in the capacity of the Forebay's screened intake.
- **Complementary Actions** – objectives that were not analyzed in the final Programmatic EIS/EIR.
 - The Temporary Barriers Project will seasonally install up to three rock flow control structures and one rock fish control structure in south Delta channels at various times through 2007, or until permanent flow control structures are constructed under the South Delta Improvements Program (SDIP).
 - Take additional actions to protect navigation and protect local diverters in the South Delta who are not adequately protected by temporary barriers as part of the Temporary Barriers Project.
 - Evaluate a bypass to the San Felipe Unit at the San Luis Reservoir to increase the operational flexibility of storage in San Luis Reservoir and ensure a high quality, reliable water supply for San Felipe Division contractors.
 - Facilitate water quality exchanges and similar programs to make high quality Sierra Nevada water in the eastern San Joaquin Valley available to urban Southern California interests.
 - Implement a Sacramento and San Joaquin Comprehensive Study to improve the flood control efforts from the Sacramento and San Joaquin Rivers out to the San Francisco Bay.

Targets:

In the Record of Decision for the CALFED Program, the Conveyance Program has dates for achieving various milestones for most of the project actions. The following table shows the ROD dates and the dates that that these milestones are expected to be met.

Conveyance Action	ROD Target Date	Expected Date	Comments
8500 cfs / Permanent Operable Barriers <ul style="list-style-type: none"> ➤ Complete EIR/EIS ➤ Secure permits ➤ Obtain funding and authority for Head of Old River Barrier ➤ Obtain funding and authority for Middle River, Old River and Grantline Canal Barriers 	12/02 7/03 12/06 12/07	9/04 11/04 12/05 12/06	Delays were due to inability of stakeholders to reach consensus on a project-specific operations plan. Additionally, loss of staff and a State hiring freeze has affected progress.
Clifton Court Fish Screens/10,300 cfs <ul style="list-style-type: none"> > Obtain funding , authority and begin operation of initial fish screens 	7/06	on-hold	Delays are due to the dependency on the construction and operation of the Tracy Fish Test Facility. Additionally, CBDA is reevaluating this project and the Tracy fish Test Facility.
Tracy Fish Test Facility <ul style="list-style-type: none"> > Obtain funding , authority and begin operation of initial fish screens 	7/06	on-hold	Delays are due to changes in scope of the project. Additionally, CBDA is reevaluating this project.
Lower San Joaquin River Flood Improvements <ul style="list-style-type: none"> ➤ Complete enviro. studies ➤ Begin construction 	Early 03 7/06	Uncertain Uncertain	Delays are due to insufficient staffing support and delay in the Comprehensive Study report. Local coordination of this project has been difficult. The State hiring freeze and General Fund cuts significantly impacts this project.

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<p>Old River & Rock Slough Water Quality Improvement Projects</p> <p>> Complete prior to operation of permanent barriers and increase to 10,300 cfs</p>	See perm. barriers	On schedule	
<p>Delta Cross Channel Reoperation</p> <p>> Complete studies; make recommendations</p>	12/03	11/05	Delays are due to the numerous contracts needed and the contracted studies requiring more time to execute and conduct.
<p>Through Delta Facility</p> <p>➤ Complete water quality & fish studies; make recommendations</p> <p>➤ If supported, obtain funding and authority to construct</p>	12/03 12/08	11/05 12/07	Delays are due to the numerous contracts needed and the contracted studies requiring more time to execute and conduct.
<p>North Delta Flood Control & Ecosystem Restoration Improvement Program</p> <p>➤ Complete envir. studies</p> <p>➤ Obtain funding and authority to construct</p>	Early 03 7/05	4/05 8/05	Delay in the completing the environmental studies is due to the delays in executing a contract and difficulties in obtaining a Federal lead agency.
<p>Delta Mendota Canal/California Aqueduct Intertie</p> <p>➤ Complete envir. studies</p> <p>➤ Obtain construction funding</p>	7/04 12/04	7/04 10/04	
<p>Clifton Court Forebay/Tracy Pumping Plant Intertie</p>	None	None	

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San Luis Reservoir Low Point Improvement Project >Complete envir. studies >Obtain funding and authorization to construct	12/03 12/04	5/05 6/06	Delays are due to delays in funding the study and the scope of the project increasing to evaluate storage, water treatment and other project alternatives.
Temporary Barriers > Construct and operate	Annually until Perm. Barriers	Annually	

The delays in the Conveyance Program will be discussed with managers of the other CALFED program elements and with members of the Water Supply Subcommittee. Any concerns and/or issues that arise as a result of these delays which can not be resolved will be brought before higher levels of authority for guidance and resolution.

Accomplishments

Many of the proposed Conveyance actions are continuing their planning phase of development and are completing activities on their environmental documents to construct and/or implement these projects. The Delta Cross Channel Reoperation and Through-Delta Facility are two projects which are continuing their studies to determine their consideration for development. The Temporary Barriers Project continues to be installed in the south Delta on an annual basis until the Permanent Operable Barriers are installed and operational.

South Delta Actions – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish protective measures, and ensure that local in-Delta agricultural water needs are met.

8,500 cfs and Permanent Operable Barriers (South Delta Improvements Program):

In the past year, a preferred alternative was selected in October and an administrative draft of the environmental documents was issued in November of 2003. The final impacts were close to completion.

Clifton Court Fish Screens and 10,300 cfs:

All planning activities except for debris studies were placed on-hold pending the recommendations by the South Delta Fish Facilities Forum Group. This Group is reviewing pertinent fish facility information with the intent of providing guidance and developing priorities in the development of the Clifton Court Forebay and Tracy Fish Test Facility projects.

Tracy Fish Test Facility:

Various options for a test facility have been developed and evaluated. All other activities related to the Tracy Fish Test Facility were placed on-hold pending the recommendations by the South Delta Fish Facilities Forum Group.

In an effort to better understand the affect of Delta smelt in SWP and CVP fish salvaging facilities, study proposals for the evaluation of fish Collection, Handling, Transportation and Release have been developed and under review.

Lower San Joaquin Flood Improvements:

Opportunities for the development of conceptual flood improvements as identified in the internal draft Comprehensive Study Lower San Joaquin River Assessment Information Report (October 2001) were discussed with various organizations in the project area including the San Joaquin River Task Force.

Old River and Rock Slough Water Quality Improvement Projects:

Collected and analyzed additional water quality samples from numerous locations in Old River and Rock Slough, and evaluated sampling results.

Performed modeling on the water quality impacts from non-point source salinity impacts.

Developed and evaluated alternatives for non-point salinity source control including best management practices.

Prepared an alternative analysis technical memorandum in June 2003.

Prepared and submitted a design and implementation proposals for funding subsequent project actions in October 2003.

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North Delta Actions – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.

Delta Cross Channel Re-Operation:

In the past year, a Delta Cross Channel Pilot Study was conducted to test new technologies for measuring river velocity structures and movements of juvenile salmon.

Through-Delta Facility:

Studies were initiated on the swimming and passage performance of adult sturgeon at U. C. Davis and fish passage at the Sacramento Deep Water Ship Channel.

A board weir structure was constructed in the Yolo Bypass toe drain to evaluate fish passage alternatives.

A pre-feasibility study on the technical viability of alternatives for a TDF was initiated.

In conjunction with the development of this project, a project plan was prepared for developing improvements at Franks Tract which preliminarily indicates the potential for improving water quality in the Delta. Reconnaissance level geologic investigations and field surveying were also initiated.

North Delta Flood Control and Ecosystem Restoration Improvements Program:

Progressed significantly in preparing environmental document including completing public scoping sessions, baseline studies, development of alternatives screening criteria, and initiation of impact analysis.

Constructed a regional hydraulic model, completed model construction peer review, and completed preliminary alternatives development modeling runs.

Worked with Agency staff and academic experts to identify science uncertainties and convened an academic science panel to provide science advisement throughout alternatives development and project planning.

Processed contracts to address science issues including sediment dynamics modeling and academic collaboration.

The North Delta Agency Team has begun ASIP preparation and is addressing other project permit requirements.

SWP/CVP Intertie Actions – to consider the need for two specific SWP/CVP intertie projects which physically connect the SWP and CVP facilities.

Delta Mendota Canal/California Aqueduct Intertie:

Completed CALSIM II and DSM modeling studies.

Initiated final design of a 400/950 cfs alternative and supporting environmental documentation. DWR also provided conceptual and preliminary design support, including land management and right of way, intertie configuration preferences and operation integration.

Clifton Court Forebay/Tracy Pumping Plant Intertie:

Work on this project is not expected to begin until year 6.

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Complementary Actions – objectives that were not analyzed in the final Programmatic EIS/EIR.

Temporary Barriers Project:

Obtained all necessary permits for continuing the annual installation and removal of these barriers.

Installed three portable pumps on Union Island to mitigate the effects of the barriers upstream of these diversions. Installed portable pumps to assist agricultural diversions into Tom Paine Slough.

Applied to the USACE for permits to conduct limited dredging and extend agricultural diversions, as necessary, in the south Delta area.

Assisted a landowner on Coney Island by providing funding to modify an agricultural diversion pump and the on-island distribution system.

San Luis Reservoir Low Point Improvement Project:

Through a multi-level screening process, a list of 80 conceptual alternatives was narrowed down to 6 project alternatives. These 6 alternatives are expected to be fully analyzed in the environmental review process.

Established a Fisheries Work Group to assist in technical coordination, especially regarding fisheries in San Luis Reservoir.

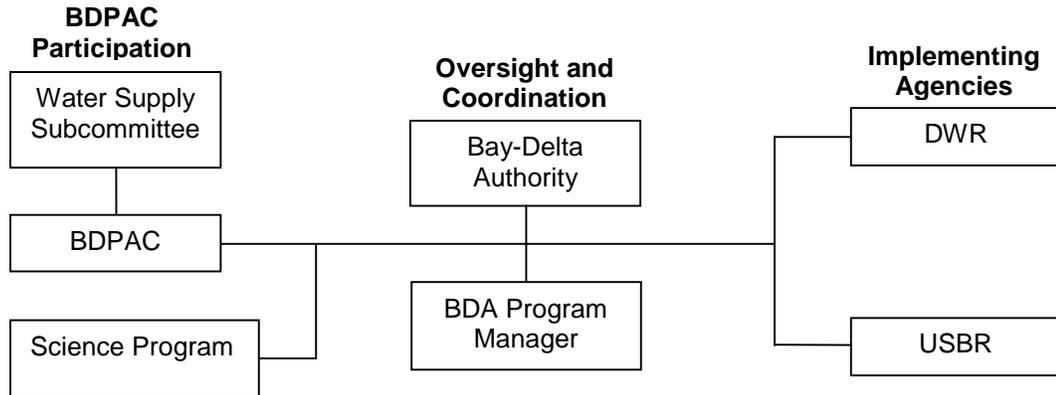
Initiated analysis of environmental impacts toward development of admin draft EIR/EIS.

Oversight, Coordination, and Science:

The California Bay-Delta Program provided general oversight to assist in meeting the goals and objectives of the Conveyance Program, ensure integration with other programs, and provide Science support, where necessary.

DWR managed the overall Conveyance Program.

Program Structure



Agency	Roles and Responsibilities
California Bay-Delta Authority	<ul style="list-style-type: none"> • Oversight and coordination
Department of Water Resources	<ul style="list-style-type: none"> • State lead agency • Manages 8500 cfs/Permanent Operable Barriers, Clifton Court Fish Screens/10,300 cfs, North Delta Flood Control and Ecosystem Restoration Improvements Program, Through-Delta Facility, Franks Tract, Lower San Joaquin River Flood Control Improvements, Clifton Court Forebay/Tracy Pumping Plant Intertie and Temporary Barriers Projects • Oversees the Old River and Rock Slough Water Quality Projects under the Contra Costa Water District • Coordinate activities with USBR • Provides Conveyance Program oversight • Participate in meetings/hearings
U.S. Bureau of Reclamation	<ul style="list-style-type: none"> • Federal lead agency • Manages the Delta Cross Channel Reoperation, Tracy Fish Test Facility, and Delta Mendota Canal/California Aqueduct Intertie Projects • Oversees the San Luis Reservoir Low Point Improvement Project under the Santa Clara Valley Water District • Coordinate activities with DWR • Participate in meetings/hearings

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Agency	Roles and Responsibilities
U.S. EPA	<ul style="list-style-type: none">● Water Quality● Review/comment on work products● Participate in meetings/hearings
Department of Fish and Game	<ul style="list-style-type: none">● Fisheries● Permitting agency● Review/comment on work products● Conduct field studies● Participate in meetings/hearings
U.S. Army Corps of Engineers	<ul style="list-style-type: none">● Permitting agency● Conduct field studies● Review/comment on work products● Participate in meetings/hearings
U.S. Fish and Wildlife Service	<ul style="list-style-type: none">● Fisheries● Permitting agency● Conduct field studies● Review/comment on work products● Participate in meetings/hearings
National Oceanic and Atmospheric Administration	<ul style="list-style-type: none">● Fisheries● Permitting agency● Review/comment on work products● Participate in meetings/hearings
U.S. Geological Survey	<ul style="list-style-type: none">● Hydrodynamics and Modeling● Conduct field studies● Review/comment on work products● Participate in meetings/hearings

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Major Activities

The major activities of several the Conveyance actions have been affected by the State General Fund reductions in Year 4. The State General Fund reductions are currently projected to continue into at least Year 5 with the possibility of State bond funds reductions also occurring. Several Conveyance actions have also been expecting Federal cost-sharing funds, however, those funds have not yet been secured. These fund reductions have already affected the activities of the Lower San Joaquin Flood Improvement Project and North Delta Flood Control and Ecosystem Restoration Improvement Program and may affect the progress of other Conveyance actions.

South Delta Actions – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish protective measures, and ensure that local in-Delta agricultural water needs are met.

8,500 cfs and Permanent Operable Barriers (South Delta Improvements Program) – DWR is the lead agency for this project. DWR will complete the EIR/EIS and secure the permits to divert 8,500 cfs at Clifton Court Forebay and to install the permanent operable barriers in south Delta channels.

Schedule: Complete EIR/EIS and permits September 2004

Clifton Court Fish Screens and 10,300 cfs – DWR is the lead agency for this project. All major project activities are on hold pending the recommendations of the South Delta Fish Facilities Forum. Study proposals are being developed to better understand the hydrodynamics of water and fish in the south Delta and are expected to be underway in Year 5.

Budget Scenario 1- The Governor's current budget provides no Proposition 13 funds for 04/05 (Year 5). At this funding level, it is estimated that project activities will not be completed in that year. This may or may not impact the schedule of this project.

Budget Scenario 2- If DWR were able to securing \$2.5 million in funding for 04/05, this project will be able to execute its study on the characterization of debris from Old River so that a new intake for Clifton Court Forebay can be properly designed to ensure the survival of fish entrained at SWP's export facility.

Schedule: Completion yet to be determined

Tracy Fish Test Facility – USBR is the lead agency for this project. All major project activities are on hold pending the recommendations of the South Delta Fish Facilities Forum.

The completion of the fish Collection, Handling, Transportation and Release study proposals are expected to be completed and underway in Year 5.

Schedule: Completion yet to be determined

Lower San Joaquin Flood Improvements – DWR is the lead agency for this project. As a result of the complexities involved in implementation of this project, project priorities and objectives continue to be re-evaluated with the USACE. It is expected to eventually define and proceed with the development of the project in smaller parts or in phases.

Budget Scenario 1- The Governor's current budget provides no General Funds for 04/05 (Year 5). At this funding level, it is estimated that project activities will not be completed in that year. This will impact the schedule of this project and result in a corresponding delay of the project.

Budget Scenario 2- If DWR were able to securing \$4.5 million in funding for 04/05, this project will be able to execute its project activities in developing flood control projects along the Lower San Joaquin River.

Schedule: Project delayed in 03/04 due to insufficient funds. Project on-hold pending funding.

Old River and Rock Slough Water Quality Improvement Projects – DWR has been the lead agency for this project. Contra Costa Water District (CCWD) initiated this project. Environmental documentation and design actions are currently underway and will be completed in phases, with planned completion of all actions during Year 5. First implementation actions are planned for late Year 4 and completion of all current planned implementation is expected to be during Year 6.

Schedule: Completion June 2007

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North Delta Actions – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.

Delta Cross Channel Re-Operation – USBR is the lead agency for this project. The DCCTDF Team will evaluate the results of three years of studies and will make a recommendation for DCC re-operation. The DCC re-operation will be evaluated on hydrodynamics, water quality, juvenile releases in the vicinity of the DCC and TDF, and adult striped bass and sturgeon.

Budget Scenario 1- The Governor's current budget provides \$ 0.858 million in Proposition 13 for 04/05 (Year 5) for both the Delta Cross Channel Reoperation and Through-Delta Facility projects. At this funding level, it is estimated that planned project activities will not be completed in that year. This will result in a delay of the schedule from that showing in this proposed plan.

Budget Scenario 2- If DWR were able to securing \$1.8 million in funding for 04/05, this project could be accomplished as proposed in this proposed program plan with the need to also secure federal funds.

Schedule: Complete technical analysis and make recommendations October 2005 (assumes Budget Scenario 2).

Through-Delta Facility – DWR is the lead agency for this project. The DCCTDF Team will refine concepts and feasibility of TDF options, determine TDF benefits and impacts on water quality and fisheries, and determine the effects of TDF on other California Bay-Delta Program actions. An independent science panel will review all of the technical information of the three years of field and research studies developed for the project and provide its advice and recommendations on the technical viability and water quality and fishery benefits and impacts of a TDF. The DCCTDF will integrate and analyze the information and provide its recommendations to the California Bay-Delta Authority (CBDA). If CBDA determines that the TDF is needed, environmental documentation would be prepared, and preliminary design and environmental permitting for a proposed project would occur.

Budget Scenario 1- The Governor's current budget provides \$ 0.858 million in Proposition 13 for 04/05 (Year 5) for both the Delta Cross Channel Reoperation and Through-Delta Facility projects. At this funding level, it is estimated that planned project activities will not be completed in that year. This will result in a delay of the schedule from that showing in this proposed plan.

Budget Scenario 2- If DWR were able to securing \$7.0 million in funding for 04/05, this project could be accomplished as proposed in this proposed program plan with the need to also secure federal funds.

Schedule: Complete technical analysis and make recommendations October 2005. (assumes Budget Scenario 2; If a decision is made to proceed in developing this project, work on the environmental documentation, preliminary design and environmental permitting for the project could be completed by 2008.)

Franks Tract Project - DWR is the lead agency for this project. This project was incorporated in the North Delta Actions due to its strong potential to improve water quality and fisheries in the Delta, either as a stand-alone project or in concert with the TDF. A project plan, and a preliminary schedule and cost estimate have been developed. Preliminary field reconnaissance investigations have also been conducted. A feasibility study and environmental documentation will be conducted to evaluate potential to create ecosystem, water quality, recreational, and other benefits at Franks Tract by modifying remnant levees and constructing tidal gates to inhibit salt trapping and restoring tidal marsh habitat. Water quality benefits and fisheries impacts and benefits will be compared with the TDF.

Budget Scenario 1- The Governor's current budget provides no Proposition 13 funds for 04/05 (Year 5). At this funding level, it is estimated that all planned project activities will not be completed in that year. This will result in a delay of the schedule from that showing in this proposed plan.

Budget Scenario 2- If DWR were able to securing \$8.9 million in funding for 04/05, this project could be accomplished as proposed in this proposed program plan with the need to also secure federal funds.

Schedule: Complete feasibility study and environmental documental by Summer 2006. Full project completion including construction of selected alternative is to be completed by 2010. (assumes Budget Scenario 2)

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North Delta Flood Control and Ecosystem Restoration Improvements Program – DWR is the state lead agency for this project. Impact analysis and refinements of project alternatives will occur during spring 2004. Additional science panel meetings will be convened in spring 2004 to address science issues and help guide alternatives refinement. Department of Finance directives to stop work payments and/or require exemptions for certain contracts will delay completion of science panel work and other related studies until these issues are resolved. Project environmental documentation is expected to be completed by December 2004, unless the science panel is unable to complete enough contract work to achieve reasonable scientific concurrence on project alternatives due to the contracts freeze. Funding for design and construction has not yet been identified, but will be pursued during 2004 through the CBDA solicitation process. North Delta Flood Control and Ecosystem Restoration Improvements will continue careful coordination with DCC and TDF actions, Levee Program actions, and CALFED ERP and Science Program actions.

Budget Scenario 1- The Governor's current budget provides \$ 0.465 million in General Funds for 04/05 (Year 5). At this funding level, it is estimated that only completion of the environmental documents and some preliminary design work may be completed. This proposed program plan would not complete all its activities for Year 5.

Budget Scenario 2- If DWR were able to recoup previous cuts by securing \$16.3 million in funding for 04/05, this program could be accomplished as proposed in this proposed program plan with the need to also secure federal funds.

Schedule: Completion early 2008 (Assumes Budget Scenario 2)

SWP/CVP Intertie Actions – to consider the need for two specific SWP/CVP intertie projects which physically connect the SWP and CVP facilities.

Delta Mendota Canal/California Aqueduct Intertie – USBR is lead agency for this project. USBR will complete final design of the proposed action in summer 2004. A draft EA/IS will be provided for public review in spring 2004. The San Luis and Delta-Mendota Water Authority is the CEQA lead. The FONSI/NEG DEC will be signed in early summer 2004.

Schedule: Completion fall 2005

Clifton Court Forebay/Tracy Pumping Plant Intertie – DWR is lead agency for this project. Work activities in support of providing increased operational flexibility to improve water quality, water supply reliability, and minimizing impacts on fish are expected to start in year 6.

Schedule: Completion yet to be determined

Complementary Actions – objectives that were not analyzed in the final Programmatic EIS/EIR.

Temporary Barriers Project – DWR is lead agency for this project. The barriers will continue to be seasonally installed to improve water levels and circulation in the south Delta. Agency, stakeholder, and local communication will occur regarding barrier status and operation through weekly reports via email. Permits are expected to be obtained in Year 4 to allow implementation of the dredging/agricultural diversions modification program beginning in Year 5. Dredging and/or diversion modifications will be coordinated closely with local beneficiaries to perform work and to update State and Federal agencies.

Schedule: Complete annually until permanent operable barriers are installed (2008)

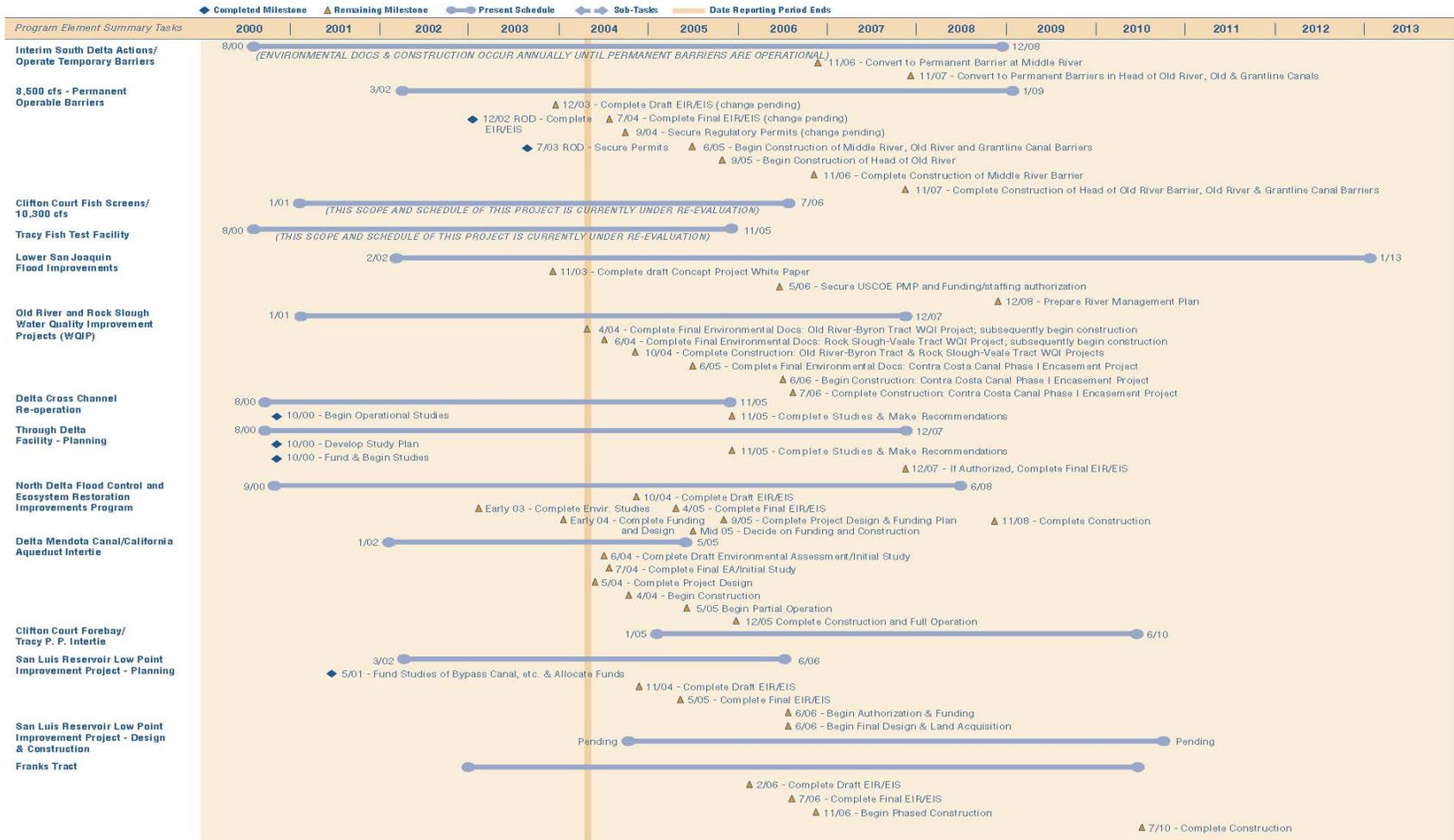
San Luis Reservoir Low Point Improvement Project – A joint EIR/EIS will be prepared by the Santa Clara Valley Water District and U.S. Bureau of Reclamation. USBR is conducting an Appraisal Study, which is the first step in obtaining feasibility study authority. The Santa Clara Valley Water District will prepare the Feasibility Report. The Regulatory Compliance Work Group, Fisheries Work Group, and Stakeholder Committee will continue to assist in project planning through Years 5-7. Design and construction is expected to begin in year 6.

Schedule: Completion Ongoing (Draft EIR/EIS and Feasibility Report expected to be issued in late 2004)

Oversight, Coordination, and Science – CBDA will provide general oversight to assist in meeting the goals and objectives of the Conveyance Program, ensure integration with other programs, and provide Science support, where necessary. DWR will manage the overall Conveyance Program

Schedule: Completion Ongoing

Schedule



Integrating Science, Environmental Justice and Tribal Relations

The planning and development of the various actions under the Conveyance Program will involve a coordinated effort with Science, Environmental Justice and Tribal Relations. This coordinated effort will occur at the working level as well as the management and oversight levels and may vary from project to project. Project teams and/or committees will be utilized and briefings will be made to respective Bay-Delta Public Advisory Committee subcommittees to ensure the needed project implementation in accordance with the CALFED Record of Decision.

Science:

The Conveyance Program must rely on the Science Program for its support and expertise. The major issues confronting many of its proposed projects is how to improve water supply reliability and water quality while improving or minimizing impacts on Delta fisheries. As a result many of the actions proposed by the Conveyance Program are conducting studies to develop a scientific basis for evaluating and selecting the optimal project alternative. Science reviews are currently used to oversee some of studies being conducted under the Conveyance Program and the need for this support is expected to increase in the coming years.

The following is a description of the Science and performance evaluation activities associated with each of the Conveyance Program key objectives.

South Delta Actions – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish protective measures, and ensure that local in-Delta agricultural water needs are met.

8,500 cfs and Permanent Operable Barriers (South Delta Improvements Program):

The Science Program will be holding a science symposium on the findings of the SDIP ASIP after the draft ASIP is issued.

Clifton Court Fish Screens and 10,300 cfs:

A South Delta Hydrodynamic Study is being proposed to better understand the flows and movement of water and fish in the south Delta. This study is presently being evaluated by the Interagency Ecological Program and a Science review panel.

This project may conduct debris, water quality and fishery studies which will likely involve the need for Science reviews and oversight.

Tracy Fish Test Facility:

Ongoing studies to further define the integrated components of TTF have been following a rigorous review process that includes peer review, interagency/stakeholder review, and publishing of volume series.

A study plan for fish collection, handling, transportation, and release at SWP and CVP fish salvaging facilities is currently under review by the Integrated Ecological Program (IEP). This will also involve review by science advisors and/or possibly a science review panel.

Lower San Joaquin Flood Improvements:

This project will be defining the science issues during the EIR/EIS phase, which has not yet been planned.

Old River and Rock Slough Water Quality Improvement Projects:

The on-going projects receive independent peer and interagency/stakeholder review. Additional science and performance review will be incorporated as part of the project monitoring program to demonstrate project component effectiveness and success.

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North Delta Actions – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.

Delta Cross Channel Re-Operation:

An independent science panel has reviewed each proposal for studies to address 22 unknowns outlined in the overall work plan for the DCC and TDF, and their recommendations were included in the final work plans. The panel will also review this years work plans and recommendations to management.

Through-Delta Facility:

An independent science panel has reviewed each proposal for studies to address 22 unknowns outlined in the overall work plan for the DCC and TDF, and their recommendations were included in the final work plans. The panel will also review this years work plans and recommendations to management.

North Delta Flood Control and Ecosystem Restoration Improvements Program:

Numerous science issues of concern for North Delta Flood Control and Ecosystem Restoration Improvements Program include sedimentation processes, dendritic channel creation and function, exotics, mercury methylation, salinity/WQ effects (organic carbon, THM), subsidence reversal, and hydrodynamics. DWR North Delta staff has engaged an academic peer review panel to address the above issues of concern. One very successful panel meeting was held in fall 2003 and a subsequent panel is planned for early 2004. However, it is most likely that current Department of Finance Directives will hamper ability of panel work to continue until State fiscal issues are resolved.

SWP/CVP Intertie Actions – to consider the need for two specific SWP/CVP intertie projects which physically connect the SWP and CVP facilities.

Delta Mendota Canal/California Aqueduct Intertie:

Performance measures and/or adaptive management will be incorporated into the project in coordination with the Science program.

Clifton Court Forebay/Tracy Pumping Plant Intertie:

Work activities regarding this project are not expected to commence until year 6.

Complementary Actions – objectives that were not analyzed in the final Programmatic EIS/EIR.

Temporary Barriers Project:

Monitoring data and general performance of past operations of these barriers will guide the design of the permanent operable barriers.

San Luis Reservoir Low Point Improvement Project:

In Years 5-7, appropriate performance measures and adaptive management strategies will be developed in coordination with State and Federal agencies, stakeholders, and the public.

Science Program Organization

Some Conveyance projects have utilized Science review panel and/or workshops to incorporate input from the Science community. It is expected that each project will evaluate its Science needs separately, however, in most cases, it is expected that the use of with Science advisors or Science review panels will be utilized to guide and support the development of the various Conveyance projects.

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Performance Standards

The following are expected performance measures which will be used to evaluate projects:

- Administrative Performance Measures
 - Monitor project funding and progress (percent expenditures, percent complete)
 - Cost-sharing of project costs (percent cost-sharing met)
- Planning Performance Measures
 - Acre-feet per year and cost per acre-foot (water supply projects)

Several of the Conveyance actions are expected to increase water supply reliability of Federal, State and/or local water entities. Computer modeling studies are generally performed to evaluate the incremental water supply improvements of various project alternatives over a long time period. The water supply improvement of the project is measured in acre-feet and the cost of the project is measured in dollars per acre-foot.

Water supply studies have been conducted on the 8500 cfs – Permanent Operable Barriers, Old River and Rock Slough Water Quality Improvement Projects, Delta Mendota Canal/ California Aqueduct Intertie and San Luis Low Point Projects. The estimated water supply improvements of these studies are shown in a figure at the end of the section. It should be noted that the modeling results of each project may not be cumulative and additional studies may be needed to be performed to determine whether these water supply quantities are additive. The figure also shows tentative dates when the water supply improvements would be realized, however, these dates may change due to current discussions on the scheduling of these projects.

- Salinity, organic carbon, chloride, and bromide level reductions (water quality projects)

Projects such as the Delta Cross Channel Reoperation, Through Delta Facility, Franks Tract, Old River and Rock Slough Water Quality Improvement Projects and San Luis Reservoir Low Point Improvement Projects are being evaluated and planned to improve water quality for in-Delta and export operations. Salinity, organic carbon, chlorides, and bromides are good indicators of the quality of Delta water, especially as a source of drinking water. Data is being collected and computer modeling studies are being conducted to evaluate various project alternatives.

Preliminary studies for Franks Tract indicate the potential for salinity reductions of 10-35 % in the central Delta and 15-30% near Clifton Court Forebay. Studies have been done with similar results for bromides.

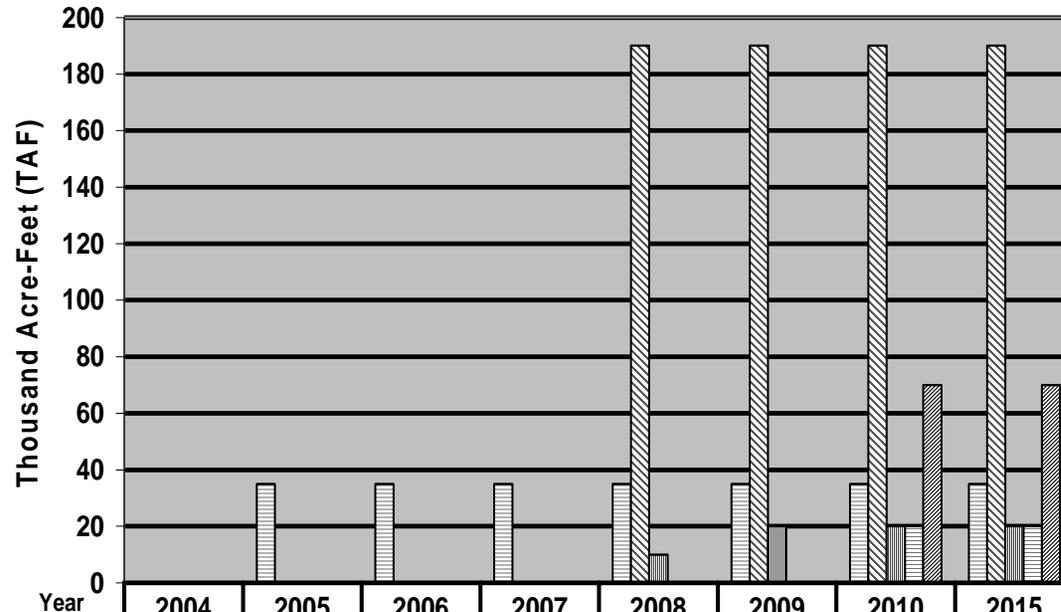
The Rock Slough Water Quality Improvement project is expecting to reduce average chloride concentrations at Contra Costa Pumping Plant No. 1 by about 5 to 10 mg/L.

- Cost per fish saved (fish facility projects)
- Cost per acre of habitat restored or developed

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- Program Goal-Oriented Performance Measures
 - Improve water supply reliability (i.e. long -term water deliveries)
 - Improve water quality (i.e. salinity, bromide, TOC, etc.)
 - Improve flood protection (i.e. reduction in flood repairs)
- Operational Performance Measures
 - Fish take at SWP and CVP fish salvaging facility (i.e. fish counts)
 - Fish population estimates (counts and trends of fish populations)
 - Average export pumping level (cfs/time period)
 - Water quality levels (same as above)

Estimated Water Supply Improvements



Year	2004	2005	2006	2007	2008	2009	2010	2015
DMC/CA Intertie CVP	0	35	35	35	35	35	35	35
8500 cfs SWP/CVP	0	0	0	0	190	190	190	190
Old River/Rock Slough WQIP	0	0	0	0	10	20	20	20
San Luis Res LPIP Local						0	20	20
San Luis Res LPIP CVP/SWP						0	70	70

Environmental Justice:

Environmental Justice is an Implementation Principle in the Record of Decision with the intent that it be applied to all CALFED Program Elements.

During the planning and development of the Conveyance actions, fair treatment will be sought of people of all races, cultures, and incomes, and proposed project actions shall not cause any segment of the population to bear a disproportionately high or adverse health, environmental, social, or economic impact.

Under those Conveyance actions involving environmental justice issues, the Conveyance Program will work with the Environmental Justice Program to resolve these issues.

The following is a description of the environmental justice activities associated with each of the Conveyance Program key objectives.

South Delta Actions – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish protective measures, and ensure that local in-Delta agricultural water needs are met.

8,500 cfs and Permanent Operable Barriers (South Delta Improvements Program):

Environmental justice issues will be addressed through the environmental documentation impact analysis process.

Clifton Court Fish Screens and 10,300 cfs:

Major activities for this project are on hold.

Tracy Fish Test Facility:

No environmental justice concerns have been identified for this project.

Lower San Joaquin Flood Improvements:

This project will be defining the environmental justice issues during the EIR/EIS phase, which has not yet been planned.

Old River and Rock Slough Water Quality Improvement Projects:

This project investigates the local sources of degradation to drinking water quality in Rock Slough and Old River and develops and implements alternatives that manage these sources of degradation. As such, the health of all of CCWD's 450,000 water customers will benefit equally from the water quality improvements. The project has potential to improve environmental justice by providing better quality water to residents with limited ability to purchase expensive bottled water or point-of-use/point-of-entry devices. The existing land use in the vicinity of the project, which is largely rural and agricultural, will be respected and preserved as the project is implemented (CCWD is communicating with the Delta Protection Commission). Stakeholder outreach is an important element of this project which will be used to avoid any impacts to disadvantaged people.

North Delta Actions – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.

Delta Cross Channel Re-Operation:

No environmental justice concerns have been identified for this project.

Through-Delta Facility:

No environmental justice concerns have been identified for this project.

North Delta Flood Control and Ecosystem Restoration Improvements Program:

Environmental justice issues will be addressed through the environmental documentation impact analysis process.

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SWP/CVP Intertie Actions – to consider the need for two specific SWP/CVP intertie projects which physically connect the SWP and CVP facilities.

Delta Mendota Canal/California Aqueduct Intertie:

Effects on environmental justice are being analyzed using the same significance criteria applied in the CALFED Final Programmatic EIS/EIR. Preliminary analysis indicates that no environmental justice impacts would occur.

Clifton Court Forebay/Tracy Pumping Plant Intertie:

Work activities regarding this project are not expected to commence until year 6.

Complementary Actions – objectives that were not analyzed in the final Programmatic EIS/EIR.

Temporary Barriers Project:

As an ongoing project since the early 1990's, the original environmental documents upon which this project was approved were not prepared to address more recent issues such as environmental justice. The South Delta Improvements Program (SDIP), which includes permanent barriers to replace the temporary barriers, is expected to address this issue.

San Luis Reservoir Low Point Improvement Project:

The EIR/EIS will identify and address disproportionately high and adverse human health and environmental effects of the project on minority and low-income populations. Potential issues include project effects on subsistence fishing and agricultural workers.

Tribal Relations:

Tribal knowledge and involvement in the implementation and evaluation of the Conveyance Program is an Implementation Principle in the Record of Decision. During the planning and development of the Conveyance actions, a determination of the need for tribal involvement will be made of each project as early as possible. This may generally occur during the environmental documentation phase of the project.

A major effort of the Bureau of Indian Affairs and Tribes is to protect and preserve Indian Trust Assets in the areas of water rights, water quality, water supply, archeological resources protection(cultural resources), and watershed protection and improvements. Under those Conveyance actions needing tribal involvement, the Conveyance Program will work with tribal representations to resolve issues concerning these areas.

The following is a description and/or status of the tribal relations activities associated with each of the Conveyance Program key objectives.

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South Delta Actions – to increase State Water Project (SWP) and Central Valley Project (CVP) export capability, improve the Delta ecosystem through fish protective measures, and ensure that local in-Delta agricultural water needs are met.

8,500 cfs and Permanent Operable Barriers (South Delta Improvements Program):

Environmental justice issues will be addressed through the environmental documentation impact analysis process.

Clifton Court Fish Screens and 10,300 cfs:

Major activities for this project are on hold.

Tracy Fish Test Facility:

No tribal concerns have been identified for this project.

Lower San Joaquin Flood Improvements:

This project will be defining the tribal relation issues during the EIR/EIS phase, which has not yet been planned.

Old River and Rock Slough Water Quality Improvement Projects:

No tribal concerns have been identified for this project.

North Delta Actions – to improve flood protection and conveyance facilities, water quality, Delta fisheries, and avoid water supply disruptions, to increase the water supply reliability for the SWP and CVP and to enhance the Delta ecosystem.

Delta Cross Channel Re-Operation:

No tribal concerns have been identified for this project.

Through-Delta Facility:

No tribal concerns have been identified for this project.

North Delta Flood Control and Ecosystem Restoration Improvements Program:

Tribal relations issues will be addressed through the environmental documentation impact analysis process.

SWP/CVP Intertie Actions – to consider the need for two specific SWP/CVP intertie projects which physically connect the SWP and CVP facilities.

Delta Mendota Canal/California Aqueduct Intertie:

Reclamation will provide the draft EA/IS to all interested parties for review and comment. This distribution will include interested tribes.

Clifton Court Forebay/Tracy Pumping Plant Intertie:

Work activities regarding this project are not expected to commence until year 6.

Complementary Actions – objectives that were not analyzed in the final Programmatic EIS/EIR.

Temporary Barriers Project:

The Temporary Barriers Project is an ongoing program of seasonally installed rock barriers. The sites for the barriers are highly disturbed from agricultural activities, levee construction, and maintenance. The sites have been surveyed for prehistoric or historic archeological and cultural resources during the preparation of the original environmental documents for the project. The Native American Heritage Commission was contacted as part of the survey. No such resources were found.

San Luis Reservoir Low Point Improvement Project:

The U.S. Bureau of Reclamation is the lead federal agency for the project and responsible for compliance with Section 106 of the National Historic Preservation Act. During preparation of the EIR/EIS, the U.S. Bureau of Reclamation will coordinate, as necessary, with affected tribes and consult with the State Historic Preservation Officer.

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Cross-Program Relationships

The planning and development of the various actions under the Conveyance Program will involve a coordinated effort with other CALFED Program Elements. This coordinated effort will occur at the working level as well as the management and oversight levels and may vary from project to project. Project teams and/or committees will be utilized and briefings will be made to respective Bay-Delta Public Advisory Committee subcommittees to ensure the needed project coordination across all CALFED Program Elements.

Storage, Conveyance, and Conjunctive Use – Includes 8500cfs/Permanent Operable Barriers; Clifton Court Fish Screens/10,300 cfs; Delta Mendota Canal/California Aqueduct Intertie

Environmental Water Account (EWA) – Includes 8500cfs/Permanent Operable Barriers; Clifton Court Fish Screens/10,300 cfs

Water Transfer – Includes 8500cfs/Permanent Operable Barriers; Clifton Court Fish Screens/10,300 cfs

Drinking Water Quality – Includes 8500cfs/Permanent Operable Barriers; Delta Cross Channel Re-operation; Through-Delta Facility; Franks Tract; Old River and Rock Slough Water Quality Improvement Projects

Ecosystem Restoration – Includes Clifton Court Fish Screens; Lower San Joaquin Flood Improvements; Delta Cross Channel Re-Operation; Franks Tract; North Delta Flood Control and Ecosystem Restoration Improvements

Conveyance projects such as the Lower San Joaquin River Flood Improvement Project, North Delta Flood Control and Ecosystem Restoration Improvement Program, Sacramento and San Joaquin Comprehensive Study and possibly others will have direct and indirect land-use implications for rural communities and agricultural landowners in the Delta. These projects will coordinate their planning and development efforts with the Bay-Delta Public Advisory Committee's Working Landscape Subcommittee to integrate, to extent reasonably possible, a working landscape approach to their implementation

Science – Includes Tracy Fish Test Facility; Lower San Joaquin Flood Improvements; Old River and Rock Slough Water Quality Improvement Projects; North Delta Flood Control, Delta Cross Channel Re-operation; Through-Delta Facility; Franks Tract; and Ecosystem Restoration Improvements

Levee System Integrity – Includes Lower San Joaquin Flood Improvements; North Delta Flood Control and Ecosystem Restoration Improvements

Funding

Conveyance (\$ in millions)	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Subtotal	Yr 8	Grand Total
State	\$7.8	\$28.7	\$5.1	\$11.4	\$13.2	\$1.1	\$1.1	\$68.5	\$1.1	\$69.6
Federal	\$2.5	\$2.3	\$4.4	\$2.5	\$2.6			\$14.4		\$14.4
Water User	\$8.4	\$6.8	\$12.2	\$26.1	\$26.1	\$26.1	\$22.6	\$128.1	\$22.9	\$151.0
Program Funding Total	\$18.7	\$37.7	\$21.8	\$40.0	\$41.9	\$27.2	\$23.7	\$211.0	\$24.0	\$235.0
Projected Needs Estimate					\$106.3	\$187.3	\$177.4	\$471.0	\$175.1	\$646.1
Original ROD Estimate (Aug, 2000)	\$25.0	\$61.0	\$145.0	\$188.0	\$170.0	\$110.0	\$48.0	\$747.0		\$747.0

NOTES:

1. Original ROD Estimates represents the original Stage 1 funding estimates from the Record of Decision (Aug 2000).

2. Funding for Years 1 - 3 reflect actual State, Federal and Local obligations, commitments, encumbrances and expenditures updated to reflect actual fund amounts for each task. State funds for Years 4 & 5 reflect the April 1st Governor's budget. Federal funds are the Year 4 enacted and President's FY 2005 proposed budget. Projected funding shown in Years 6 - 8 includes remaining state bond funds that have been scheduled for future years and ongoing State base funding, plus estimates for local matching to grants for years where bond funding is available. Federal appropriations beyond Year 5 are unknown.

3. The State budget includes funding for the California Bay-Delta Authority (CBDA), Department of Water Resources (DWR), and the Department of Fish and Game (DFG).

4. The Federal budget includes funding for the U.S. Bureau of Reclamation (Reclamation).

5. Water User funding includes State Water Project Funds and CVPIA Restoration Funds that are collected from state water contractors and Central Valley Project water users, but are budgeted and appropriated through the federal and state governments.

Funding By Task

Conveyance (\$ in millions)	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Subtotal	Yr 8	Grand Total
1) 8,500 cfs - Permanent Operable Barriers	\$3.7	\$0.9	\$4.8	\$17.5	\$14.2	\$6.7	\$3.5	\$51.4	\$0.5	\$51.9
2) Clifton Court Fish Screens / 10,300 cfs		\$0.2	\$0.7	\$0.8	\$1.9	\$1.5	\$2.5	\$7.6	\$3.5	\$11.1
3) Tracy Fish Test Facility	\$6.5	\$26.0	\$6.7	\$6.0	\$2.7	\$0.1	\$0.1	\$48.0	\$0.1	\$48.1
4) Lower San Joaquin Flood Improvements		\$0.1	\$0.1					\$0.2		\$0.2
5) Old River & Rock Slough Water Quality Improvement Projects			\$0.7					\$0.7		\$0.7
6) Delta Cross Channel Re-operation		\$0.3	\$0.3	\$1.9	\$2.8	\$2.0	\$1.7	\$9.0	\$0.1	\$9.2
7) Through Delta Facility		\$1.6	\$0.1	\$3.5	\$12.1	\$7.8	\$5.4	\$30.5	\$10.9	\$41.4
8) North Delta Flood Control & Ecosystem Restoration Improvement Program		\$1.0	\$1.3	\$0.7	\$0.5	\$0.5	\$0.5	\$4.4	\$0.5	\$4.9
9) Delta Mendota Canal / California Aqueduct Intertie		\$0.2	\$1.0	\$0.9				\$2.2		\$2.2
10) Clifton Court Forebay/Tracy Pumping Plant Intertie						\$1.5	\$3.0	\$4.5	\$4.6	\$9.1
11) Temporary Barriers	\$3.7	\$2.1	\$3.4	\$6.5	\$7.1	\$6.5	\$6.5	\$36.0	\$3.3	\$39.3
12) San Luis Reservoir Low Point Improvement Project	\$4.8	\$4.9	\$2.4	\$0.5				\$12.7		\$12.7
13) Oversight, Coordination & Science		\$0.3	\$0.2	\$1.8	\$0.5	\$0.5	\$0.5	\$3.8	\$0.5	\$4.3
Program Funding Total	\$18.7	\$37.7	\$21.8	\$40.0	\$41.9	\$27.2	\$23.7	\$211.0	\$24.0	\$235.0
Projected Needs Estimate					\$106.3	\$187.3	\$177.4	\$471.0	\$175.1	\$646.1
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- The State budget includes funding for the California Bay-Delta Authority (CBDA), Department of Water Resources (DWR), and the Department of Fish and Game (DFG).
- The Federal budget includes funding for the U.S. Bureau of Reclamation (Reclamation).
- Water User funding includes State Water Project Funds and CVPIA Restoration Funds that are collected from state water contractors and Central Valley Project water users, but are budgeted and appropriated through the federal and state governments.

Geographical Distribution of Activities

